Basin Study Work Group: Deschutes River Subgroup Meeting
DeArmond Room, Deschutes Services Building
1300 NW Wall Street, Bend, OR 97701

December 16, 2014, 1:00 pm to 3:00 pm

Attending

Suzanne Butterfield, Swalley Irrigation District
Kevin Crew, Black Rock Consulting
Bill Duerden, City of Redmond
Dave Dunahay, Central Oregon Flyfishers
Shawn Gerdes, Arnold Irrigation District
Nancy Gilbert, US Fish and Wildlife Services
Kyle Gorman, Oregon Water Resources Department
Jason Gritzner, US Forest Service
Tod Heisler, Deschutes River Conservancy
Brendon Hirschberg, Arnold Irrigation District
Craig Horrell, Central Oregon Irrigation District
Ryan Houston, Upper Deschutes Watershed Council
Peter Lickwar, US Fish and Wildlife Services
Chris Louis, Lone Pine Irrigation District
Lauren Mork, Upper Deschutes Watershed Council
Jennifer O'Reilly, US Fish and Wildlife Services
Mark Reinecke, Avion
Ken Rieck, Tumalo Irrigation District
Mark Schang, Bend Pedal Trail Alliance
Adam Sussman, GSI Water Solutions (City of Bend and Technical Co-Coordinator)
Pamela Thalacker, Three Sisters Irrigation District
Mike Tripp, Trout Unlimited
John Warinner, Geospatial Solutions

Kate Fitzpatrick from Deschutes River Conservancy attended as Process Co-Coordinator, and Danielle MacBain from GSI Water Solutions as Technical Co-Coordinator. Mary Orton, from The Mary Orton Company, facilitated the meeting.

Welcome, Introductions, and Agenda

Craig Horrell convened the meeting and participants introduced themselves. Mary reviewed the agenda.

Basin Study Work Group Process Update

Kate gave a brief overview of the four Basin Study requirements and explained that the Steering Committee's main task is to develop the Plan of Study (POS). The goal is to sign an MOA with an attached POS with Reclamation by the end of March. The Subgroup's work will be to develop POS of elements for the Upper Deschutes basin.

Draft Plan of Study Task Table

Adam distributed a draft POS task table for the Deschutes (Attachment 1). He explained that while he was not looking for agreement at this point, he was inviting input and direction so he could further refine the table. Adam explained the structure of the task table:

- The framework is based on Basin Study elements (Attachment 2).
- The task itself is described.

- The deliverables are packaged into a series of Technical Reports.
- The timeline has not been developed yet, and the sequencing will be of key importance.
- The budget starts to estimate Reclamation and non-Reclamation costs.
- Tasks in bold font are crosscutting and will happen in all reaches. Other tasks are specific to the Deschutes.
- A narrative description for each POS task (a few sentences and some bullet points) will describe what will be done in more detail.

The group discussed the task table row by row; bullets below capture major points discussed. The group focused on the Deschutes-specific tasks (the non-bolded tasks).

T1: Summarize information on existing water supply.

- It was confirmed that supply would be characterized as what is available (wet water), not water rights.
- It was clarified that this includes groundwater. In answer to a question about whether we have accurate information on groundwater supplies, Kyle said the updated USGS groundwater report should be sufficient and was updated to include recent conservation work.

T5: Evaluate groundwater/mitigation demand.

- A small group was working on refining groundwater/mitigation demand. Some of this work will be finished before the POS is finalized, and some will need to be done as part of the POS. A public comment made later in the meeting suggested that an estimate of exempt wells should be a part of this.

T6: Evaluate ecological benefits of meeting baseline stream flow targets in the Upper Deschutes. Evaluate additional ecological benefits in Upper Deschutes, Crescent Creek, and Little Deschutes at altered flows.

- Do we want to explicitly acknowledge the reach priorities? The progress of the Deschutes instream technical team should be cross-walked with the POS (i.e., the Upper Deschutes has emerged as a higher information priority than the Little Deschutes).
- Suggestion to use the language ‘altered’ flows.
- A suggestion was made to use ‘evaluate’ instead of ‘understand’ consistently

T7: Peer review/evaluation of existing flow/temperature modeling associated with Tumalo Creek and the middle Deschutes River (helps to inform location of instream efforts).

- This task would help us understand the robustness of the current analysis, could result in collaborative buy-in to the analysis, and could help prioritize flow restoration locations.
- It was noted that Gordon Grant is doing some climate change work as it relates to flow in the basin, and we should make sure we are coordinating his efforts with those of the Bureau of Reclamation.
- Jason noted that the heatsource model on Tumalo Creek might need to be recalibrated. It was calibrated for two weeks in 2001, and there has been stream restoration work done since then.

T8: Evaluate stream water quality and reservoir linkage.

- This task currently does not have an associated budget, as DEQ and others are still investigating the best way to approach it.
- Kyle emphasized the importance of understanding water quality in the reservoirs
- There was a suggestion to add water quality analysis as related to groundwater linkages. This could be incorporated in the tradeoff analysis (T21).

T11: In-depth analysis of COID infrastructure/Master Plan and Master Plan framework for other districts (directly linked to addressing water supply imbalances in Tasks 14, 15 and 17).

- This task would provide needed information about district systems to enable them to provide water for multiple needs while remaining sustainable.
- This analysis would be more in-depth for COID as they are the major potential water supplier
- TID is also a major potential water supplier to restore Tumalo Creek, so greater investment may be justified here.
- It was noted that how the districts can supply water is not just an infrastructure issue, but needs to incorporate policies and practices into a broad plan (i.e., needs to be linked to and integrated with T14, T15, and T17).
- It was suggested not to put districts in conflict with each other, and to remember that if one district is looked at as a water supplier, other districts could be hurt. The analysis needs to be integrated. Adam offered to meet with the DBBC to discuss this more and to understand district plans and needs.

T13: Crane Prairie, Wickiup, and Crescent reservoir optimization options:

a. modeling
b. operations
c. governance

- This task was broadly supported, and it was underlined that identifying the administrative or legal barriers early will increase the success of this strategy (folded under governance).

T14: Evaluate water conservation and re-allocation options and packages of options/projects based on previous studies. Identify viable options for meeting the water supply needs for irrigation, instream, and municipal/water suppliers. Identify legal and administrative requirements for option implementation.

- This task is critical and loaded with many tasks; those tasks will need to be explicit.
- It was suggested that options and projects should not be limited to previous studies.

T15. Inter-district management and agreements, and governance structure.

- Like T14, this task is critical and loaded with many tasks; those tasks will need to be explicit.
- Sequencing was noted as important, particularly if T14 and T15 depend on information generated in district master plans (T11).
- Adam acknowledged that sequencing would be critical with many tasks (e.g., instream needs and climate change information that will shape the scope of strategies needed). He said he listed the tasks in a general sequence order that will need more work and will need to be closely managed.

T16. Off-channel storage options.

- Dave underlined his interest in Monner Reservoir. Kate clarified that a 1972 Reclamation report assesses potential storage sites in the Upper Deschutes, and Monner was the only one recommended for further analysis.
- Dave said several next steps (such as an archaeological survey and soil/geology analysis) were identified in the report and hoped further analysis can happen on its own timing track.
- Suzanne underlined that the districts have an interest in assessing new storage.
- Jason suggested that hydropower analysis associated with potential storage options be included, perhaps in the tradeoff analysis.

T17-T21 were discussed as a group:

T17. Develop scenarios to meet water supply and demand imbalances based on future near-term and long-term projections, district conservation and management plans, and opportunities identified in prior tasks. (Two sets of scenarios—one with "new" storage, the other without.)

T18. Identify cost and funding options, for both near-term and long-term projects, associated with each scenario.

T19. Model outcomes of identified scenarios.

T20. Evaluate changes in supply and demand imbalance with each near-term and long-term scenario.

T21. Conduct trade-off analysis of options accounting for costs, environmental impact, risk, stakeholder response, and other potential attributes.

- These tasks are the packaging and optimization of projects—the difficult work that the Upper Deschutes community has already put significant resources into.
- Adam revisited the approach diagram and reminded the group they had agreed to structure the analysis of scenarios in order to do the more cost-effective projects first. He said the group would need to give more thought to how to structure the tasks to reflect this. One idea would be to apply a self-imposed cost cap at two different levels.
- Mike Relf cautioned the group not to include too much detail in the MOA, because it is at the time of signing the MOA that Reclamation can contribute its resources and technical expertise.
- Ideas for crafting an RFP included:
    - Writing it broadly enough that smart consultants have room to contribute their expertise.
    - Asking the consultant to identify how to make an irrigation district more efficient.
- Be explicit about incorporating economic analysis (hydropower, financial stability of districts, other).
- Include analysis of impacts to recharge in lower stream reaches (quantity and temperature).

Other Comments

- While we may not need detail for the POS, it would be useful for the coordinators to map out how to move from a general POS to requests for proposals (RFPs) that are more detailed

- The relative order of magnitude of investment in the Deschutes was noted: $520,000, not including crosscutting tasks. There was general agreement that this was justified.
- It was recommended that the table explain what the budget totals represent (explain the asterisks better) and/or to show the whole total (about $780,000 in the Deschutes when cross-cutting tasks are included).
- A pie chart of relative investment might be useful.
- Kyle asked if six months for T22 (Draft and Final Basin Study developed) was sufficient. Wendy Christenson of Reclamation recommended this timeline.
- Kyle noted that the Klamath Basin Study included a bibliography as part of its documentation, which could be very useful in this case.

ADDITIONAL POST-MEETING NOTE

Comments received on the Deschutes Draft Plan of Study Task Table via email or phone, either before the meeting by those who did not attend, or after the meeting, are summarized thematically as Attachment 3.

ACTION ITEMS

- All members are invited to send additional feedback on level of detail, structure, or direction to Kate by January 6.
- Coordinators will refine table based on input received during and after the meeting.

MEETING EVALUATION

On paper forms, Kate Fitzpatrick invited everyone to provide one piece of feedback about what they liked about the meeting, indicated below with a plus symbol (+), and one piece of feedback about what they would like to change for the next meeting, indicated with a delta symbol (Δ). Below are the results of this exercise. Each check mark (✓) indicates that someone endorsed a previously mentioned item.

+	Δ
+ Good process—moved well through agenda and table.	Δ The chart was hard to see but that might be my problem. I need a little more details and context. The table should have a title.
+ We stayed on track.	
+ Efficient.	
+ The room, the information presented, the refreshments, the participation, the facilitation, the comments, the timeframe.	Δ Maybe some way to draw out those who haven't commented. I don't know…it is a "friendly" environment so maybe no need to draw people out more.
+ We are getting to know each other well and it shows in the discussion.	Δ Nothing. It was a good meeting.
+ Getting more tangible.	Δ Nothing. Very well facilitated!
	Δ (Nothing noted.) ✓

The meeting was adjourned.

Attachment 1: Draft Deschutes Plan of Study Task Table

See Separate Email Attachment for a Legible Version

Deschutes Sub-Group 12/16/14

Basin Study Element	Task	Deliverable(s)	Timeline	Budget Estimate - Reclamation and IDIQ Contractor	Budget Estimate - Non-Federal Cost Share Partner
Analyze Existing Supplies & Future Projections Develop Climate Change Scenarios Affecting Water Supplies	T1. Summarize information on existing water supply T2. Develop climate change analysis T3. Apply climate change analysis to existing supplies	Technical Report #1 - *Existing & Future Water Supplies*	March 2015 to June 2015	T2. $60,000* T3. $60,000*	T1. $7,500*
Analyze Existing & Future Water Demands Develop Climate Change Scenarios Affecting Water Demands	T4. Summarize information on existing and future water demand T5. Evaluate groundwater/mitigation demand T6. Evaluate ecological benefits of meeting baseline stream flow targets in the Upper Deschutes. Understand additional ecological benefits in Upper Deschutes, Crescent Creek , and Little Deschutes at higher flows T7. Peer review/evaluation of existing flow/temperature modeling associated with Tumalo Creek and the middle Deschutes River (helps to inform location of instream efforts) T8. Evaluate stream water quality and reservoir linkage T9. Apply climate change analysis to projected future demands	Technical Report #2 - *Existing & Future Water Demands*		T7. $7,500 T8. $..... T9. $60,000*	T4. $7,500 T5. $10,000 T6. $150,000
Analyze How Existing Water & Power Infrastructure will Perform in the Face of Changing Water Realities	T10. Identify and evaluate current water and power infrastructure in the basin, and develop metrics of measuring baseline system reliability T11. In-depth analysis of COID infrastructure/Master Plan and Master Plan framework for other districts (directly linked to addressing water supply imbalances in Tasks 14, 15 and 17) T12. Characterize projected water and power infrastructure performance based on climate change projections	Technical Report #3 - *Current Infrastructure & Climate Change*		T11. $100,000 T12. $100,000	T10. $20,000 T11. $20,000
Develop Options to Meet Future Water Supply Needs	T13.Crane Prairie, Wickiup and Crescent reservoir optimization options: a. modeling b. operations c. governance T14. Evaluate water conservation and re-allocation options and packages of options/projects based on previous studies. Identify viable options for meeting the water supply needs for irrigation, environment and municipal/water suppliers T15. Inter-district management and agreements, and governance structure T16. Off-channel storage options	Technical Report #4 - *Water Supply Options for the Future*		T13. $25,000 T14. $20,000 T16. $20,000	T13. $25,000 T14. $100,000* T15. $20,000
Conduct Evaluation & Trade-Off Analysis of Options Identified	T17. Develop scenarios to meet water supply and demand imbalances based on future near-term and long-term projections, district conservation and management plans, and opportunities identified in prior tasks (Two sets of scenarios - one with "new" storage the other without) T18. Identify cost and funding options, for both near-term and long-term projects, associated with each scenario T19. Model outcomes of identified scenarios T20. Evaluate changes in supply and demand imbalance with each near-term and long-term scenario T21. Conduct trade-off analysis of options accounting for costs, environmental impact, risk, stakeholder response and other potential attributes	Technical Report #5 - *Recommended Options*	January 2017 to July 2017	T17.-T21. $100,000*	T17.-T21. $200,000*
Draft and Final Basin Study Developed	T22. Incorporate Technical Reports and comments into a consolidated Draft Basin Study Report: upon review of the draft, Prepare and Publish Final Basin Study	*Draft Basin Study Report* and *Final Basin Study Report*	August 2017 to February 2018	T22. $30,000*	T22. $40,000*
			Sub-Total:	$272,500**	$252,500**

Notes:
**identifies money for tasks that run across all sub-basins, the quantity is only included in the total budget*
***sub-basin sub-totals account only for task budget that is specific to the sub-basin, overarching task budgets are not included*

Attachment 2: Basin Study Requirements

Basin Studies address basin-wide efforts to evaluate and address the impacts of climate change. Funding is available for comprehensive water studies that define options for meeting future water demands in river basins in the western United States where imbalances in water supply and demand exist or are projected.

Each Basin Study will include four basic components:

1. Projections of water supply and demand within the basin, or improvements on existing projections, taking into consideration the impacts of climate change.

2. Analysis of how existing water and power infrastructure and operations will perform in the face of changing water realities such as population increases and climate change.

3. Development of structural and nonstructural options to improve operations and infrastructure to supply adequate water in the future.

4. A trade-off analysis of the options identified and findings and recommendations as appropriate. Such analysis simply examines all proposed alternatives in terms of their relative cost, environmental impact, risk, stakeholder response, or other attributes common to the alternatives. The analysis can be either quantitative or qualitative in measurement.

(Sources: http://www.usbr.gov/WaterSMART/bsp and http://www.usbr.gov/WaterSMART/bsp/require.html, accessed September 10, 2014)

Attachment 3: Other Comments Received via Email or Phone on Deschutes Draft Deschutes Plan of Study Task Table

Scenarios/Tradeoff Analysis

- Any scenario to increase reliability for NUID must be tied to increased flows below Wickiup based on NUID's decreased need for storage
- Proactively work on legislative/administrative/contractual barriers associated with Deschutes scenarios involving the reservoirs and inter-district movements of water

Instream Needs

- Interested to hear about what was learned in the ramp-down that may inform this
- Suggestions to change:
  "Evaluate ecological benefits of meeting baseline stream flow targets in the Upper Deschutes. Understand additional ecological benefits in Upper Deschutes, Crescent Creek, and Little Deschutes at higher flows."
  to
  "Evaluate ecological benefits of improving baseflows in the Upper Deschutes, Crescent Creek, and Little Deschutes through a range of flow scenarios"
- If we have agreed that "baseline streamflow targets" are instream water rights, acknowledge this
- Emphasized the importance of evaluating benefits at a range of flows in the upper Deschutes
- Say 'evaluate' instead of 'understand' higher flows so it is clear there will be technical work involved

Future Options

- Stress implementation in the Basin Study since we already have so much baseline information (in contrast to the Hood River), including
  - Have a specific study in the POS: Legal and administrative requirements for scenario implementation
  - This would include legal/contractual issues associated with changes in reservoir management, inter-district movements of water, how the conserved water program could work etc…
  - Clarify that conservation options to be assessed include both delivery systems and on-farm
  - Include all DWPI work, but don't limit the analysis to previous studies

Storage

- Study to adequate but not excessive degree in the Basin Study
- Off-channel storage should be given a rigorous analysis:
  - Should be incorporated into elements of Tech Rports 3 & 5 (T12, T13, T18…)
  - Will be a critical a component of meeting instream needs
  - Important to arrive at a real cost/benefit analysis (including instream benefits but also benefits to the districts, recreation, city of madras, water quality…)

Hydropower

- Include in off-channel storage analysis so potential revenue benefits are included
- Hydro can create an economic disincentive to conserve water in the future. Don't analyze until district master plans help us understand how much conveyance is going to be in the canals.
- Include potential environmental consequences in hydro analysis

Groundwater

- Include analysis of groundwater pumping on springs i.e. evaluate stream water quality and groundwater pumping linkage

General Language:

- Double-check we've used 'instream' not 'environment'
- Add the words "municipal, agricultural and instream" so it's clear the analysis applies to all (T4 and T17)